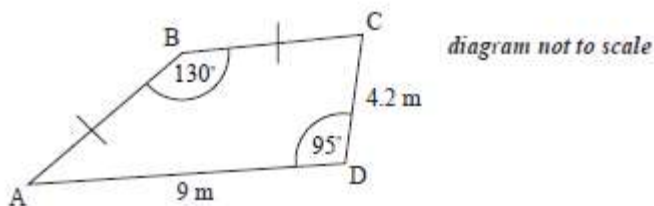


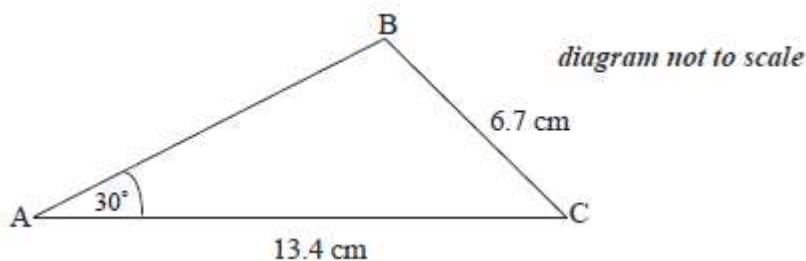
- 1) The quadrilateral $ABCD$ shown below represents a sandbox. AB and CD have the same length. AD is 9 m long and CD is 4.2 m long. Angles ACD and ABC are 95° and 130° respectively.



- A) Find the length of AC .
- B)
- I) Write down the size of angle BCA .
- II) Calculate the length of AB .
- C) Show that the area of the sandbox is 31.1 m^2 correct to 3 s.f.

The sandbox is a prism. Its edges are 40 cm high. The sand occupies one third of the volume of the sandbox.

- D) Calculate the volume of sand in the sandbox.
- 2) Triangle ABC is such that AC is 7 cm , angle ABC is 65° and angle ACB is 30° .
- A) Sketch the triangle writing in the side length and angles.
- B) Calculate the length of AB .
- C) Find the area of triangle ABC .
- 3) The diagram shows triangle ABC in which angle $BAC = 30^\circ$, $BC = 6.7\text{ cm}$ and $AC = 13.4\text{ cm}$.

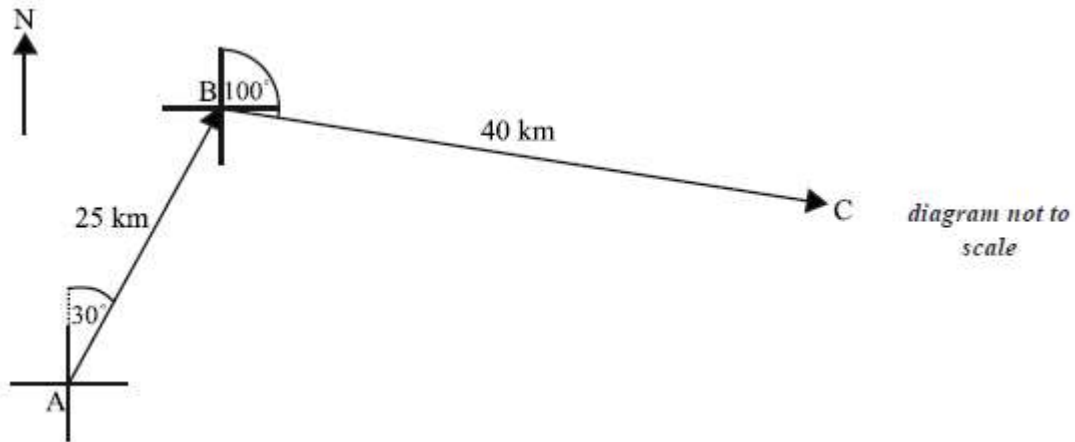


- A) Calculate the size of angle ACB .

Nadia makes an accurate drawing of triangle ABC . She measures angle BAC and finds it to be 29° .

- B) Calculate the percentage error in Nadia's measurement of angle BAC .

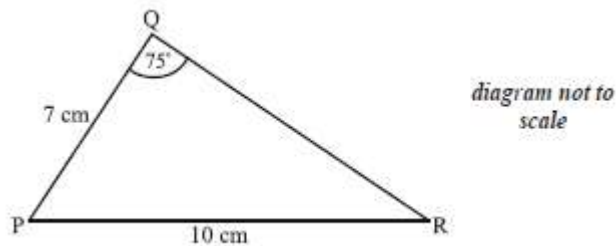
- 4) A ship leaves port A on a bearing of 030° . It sails a distance of 25 km to point B . At B , the ship changes direction to a bearing of 100° . It sails a distance of 40 km to reach point C . This information is shown in the diagram below.



A second ship leaves port A and sails directly to C .

- A) Find the distance the second ship will travel.
 B) Find the bearing of the course taken by the second ship.

- 5) The diagram below shows triangle PQR . The length of $[PQ]$ is 7 cm , the length of $[PR]$ is 10 cm , and \hat{PQR} is 75° .



- A) Find \hat{PRQ} .
 B) Find the area of triangle PQR .